

Serial No.: 09/518,551
Filing Date: March 3, 2000
Amendment dated August 5, 2004
Reply to Office Action of May 6, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Currently amended) The method of claim ~~[[1]]~~ 4, further comprising:

reserving said logical I/O device for said first node within said second RAID controller, in response to said communicated reservation request.

3. (Previously presented) The method of claim 2, wherein the act of reserving further comprises:

determining whether said logical I/O device is already reserved within said second RAID controller;

communicating a response, indicating failure to reserve said logical I/O device, to said first node when said logical I/O device is already reserved; and

otherwise, reserving said logical I/O device for said first node within said second RAID controller, and communicating to said first node a response indicating success in reserving said logical I/O device.

4. (Previously presented) A method for managing access to a logical I/O device, said method comprising:

communicatively coupling first and second nodes, having respective first and second bus controllers having respective first and second reservation tables, and said logical I/O device, by means of a bus and said first and second bus controllers;

receiving on said first controller a request to reserve said logical I/O device;

updating the first reservation table to reflect reservation of the logical I/O device;

communicating by means of said bus from said first to said second controller a reservation request for said logical I/O device for updating by said second controller of said second reservation table, in response to said receiving;

receiving a response to said communicated reservation request;

aborting the method for managing access when said response indicates failure to reserve and said first controller is subordinate to said second controller;

otherwise, delaying and communicating again a reservation request for said logical I/O device when said response indicates failure to reserve and said first controller is dominant to said second controller; and

otherwise, responding, indicating success, to said received reservation request.

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5. (Currently amended) The method of claim [[1]] 4, wherein the act of communicatively coupling further comprises:

communicatively coupling said first and second nodes and said logical I/O device depending from a multi-logical-device, third RAID controller by means of said bus and said first and second RAID controllers.

6. (Currently amended) The method of claim [[1]] 4, wherein after the act of receiving and before the act of communicating:

in response to said reservation request, determining whether said logical I/O device is already reserved within said first RAID controller, and aborting said method for managing access when said logical I/O device is already reserved; and

otherwise, reserving said logical I/O device for said first node within said first RAID controller.

Claims 7 - 9. (Cancelled)

10. (Previously Presented) A computer-readable medium for data storage wherein is located a computer program including instructions for causing a first node in a computer system, having a first RAID controller having a first reservation table, to manage access to a logical I/O device in said computer system by:

receiving on said first RAID controller a request to reserve said logical I/O device;

updating the first reservation table to reflect reservation of the logical I/O device; and

communicating in response to receiving said request, a reservation request for said logical I/O device from said first RAID controller to a RAID second controller of a second node for updating of a second reservation table by said second controller;

receiving a response to said reservation request;

aborting said method for managing access when said response indicates failure to reserve and said first controller is subordinate to said second controller;

otherwise, delaying and communicating again a reservation request for said logical I/O device when said response indicates failure to reserve and said first controller is dominant to said second controller; and

otherwise, responding, indicating success, to said received reservation request..

Claims 11 - 23. (Cancelled)

24. (Currently amended) The method of claim [[1]] 4, wherein said communicatively coupling further comprises said logical I/O device is stored on a plurality of physical I/O devices.

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25. (Previously Presented) The method of claim [[1]] 4, wherein said communicatively coupling further comprises said logical I/O device is selected from a plurality of logical I/O devices, with each logical I/O device defined in part on a common physical I/O device.

26. (Cancelled)

27. (Cancelled)

28. (Currently amended) The method of claim [[1]] 28, wherein the first and second reservation tables each cross-reference logical devices with a reserving SCSI device.

29. (Currently amended) The method of claim [[1]] 4, further comprising:
receiving successful communication from said second controller; and
completing the reservation command to an operating system after receiving said successful communication.

30. (New) A computer program product for use in conjunction with a computer system, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism, comprising:

a program module that manages access to a logical I/O device in said computer system, the program module including instructions for:

receiving on said first controller a request to reserve said logical I/O device;
updating the first reservation table to reflect reservation of the logical I/O device;

communicating by means of said bus from said first to said second controller a reservation request for said logical I/O device for updating by said second controller of said second reservation table, in response to said receiving;

receiving a response to said communicated reservation request;

aborting the method for managing access when said response indicates failure to reserve and said first controller is subordinate to said second controller;

otherwise, delaying and communicating again a reservation request for said logical I/O device when said response indicates failure to reserve and said first controller is dominant to said second controller; and

otherwise, responding, indicating success, to said received reservation request.